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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,791	HE, JIANFEI	
	Examiner	Art Unit	
	KHALID ABDALLA	4173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/06/2007,08/02/2006,06/21/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This application has been examined .Claims 1-14 are pending in this application

Information Disclosure Statement

2. The Examiner has considered the references listed on the Information Disclosure statement submitted on 06/21/2006 (see attached PTO-1449.

Drawings

3. The examiner contends that the drawings submitted on 06/21/2006 are acceptable for examination proceedings

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Field et al (US 6621828 B1).

Regarding claim 1 ,Field discloses an integrated cross-switching unit (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30). Which is used Time Division Multiplexing system comprising line unit and a data service processing unit (Integrated access devices often combine synchronous and asynchronous transport and switch functionality to multiplex data, voice, and video traffic together onto a single network. Within an integrated access device, a time division multiplex (TDM) bus is typically used to transport voice and other synchronous traffic between the line cards and a switch core. An asynchronous transfer mode (ATM) bus is used to transport ATM traffic between the line cards and the switch core see col:1 lines 41-50), comprising;
a bus identification module (The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37).
a cross-connecting module (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30)
a mapping/de-mapping module (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's see col:16 lines 41-45).
an encapsulation/de-encapsulation module (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM)

cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent encapsulation/de-encapsulation see col:6 lines 38-46).

a packet scheduling module (ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule see col:6 lines 26-28); wherein the bus identification module transmits (The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37). the data service and/or TDM service from the TDM line unit to the cross-connecting unit and transmits the data service from the data service processing unit to the packet scheduling module (ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule see col:6 lines 26-28),

the cross-connecting module implements cross-scheduling for time slots of the TDM service (The scheduler 356 manages outgoing slot allocation and incoming slot allocation. For outgoing slot allocation, the scheduler 356 specifies whether the multi-purpose ATM switch 66 or the bus fuser 350 writes to a given outgoing slot see col:19 lines 65-67 and clon:7 lines 1-2), and schedules the time slots corresponding to the data service from the TDM line unit (The fused TDM/ATM switch card 60 includes a time slot interchanger (TSI) 64 and a multi-purpose ATM switch 66 that are together capable of switching both synchronous and asynchronous traffic see col:7 lines 52-55)

to the mapping/de-mapping module .the mapping/de-mapping module receives data frames from the cross-connecting module and implements mapping/de-mapping (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's see col:16 lines 41-45).for the data from the encapsulation/de-encapsulation module .the encapsulation/de-encapsulation module receives the data frames from the mapping/de-mapping module, implements data link layer de-encapsulation, and encapsulates (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent encapsulation/de-encapsulation see col: 6 lines 38-46).

the packets from the packet scheduling module the packet scheduling module receives the data packets from the encapsulation/de-encapsulation module and/or the bus identification module(The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37) to implement label-based packet scheduling transmitting the scheduled data to the data service processing unit via packet bus or to the TDM line unit via the encapsulation/de-

encapsulation module, the mapping/de-mapping (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's see col:16 lines 41-45)module and the cross-connecting unit in turn (the switch and line cards are synchronized to this 125 microsecond frame pulse which in turn is derived from the systems clock see col:32 lines 24-26) .

Regarding claim 2 ,Field discloses the integrated cross-switching unit (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30), wherein a plurality of physical channels are configured between the mapping/de-mapping module (In operation, DS-0 channels from a service interface are mapped into the TSB frame 100 in an arbitrary although fixed manner, with the TSI 64 of the fused TDM/ATM switch card 60 having the same mapping for switching the traffic to a destination card within the integrated access device 14 see col:12 lines 35-39 and FIG.7) and the encapsulation/de-encapsulation module, and between the encapsulation/de-encapsulation module and the packet scheduling module (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in

order to map the packet flow into a cell flow and that therefore inherent encapsulation/de-encapsulation see col: 6 lines 38-46).

Regarding claim 3 ,Field discloses the integrated cross-switching unit according to claim 2, wherein the plurality of physical channels (switch card for a telecommunications node includes a shared memory operable to store traffic channels see col:2 lines 9-10) are configured with different encapsulation protocols respectively(The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent different encapsulation/de-encapsulation protocols see col:6 lines 38-46).

Regarding claim 4 ,Field discloses the integrated cross-switching unit (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30), wherein for the GFP frames from different physical channels, the encapsulation/de-encapsulation module finds CID field in the extended header of each GFP frame and directly forwards the data frame with the CID field into the corresponding physical channel (A port value specifies the logical line port that traffic in the HSA slot 202 has originated from in the case of egress cells or is destined to in the case of ingress cells. For the CID field 240, the line

card 40 replaces any protocol-specific header information such as VPI/VCI with a unique CID value that is used by the switch core 44 to switch the cell see col: 15 lines 46-53).

Regarding claim 5 ,Field discloses an integrated cross-switching unit (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30) , which is used for TDM system including an TDM line unit and a data service processing unit (FIG. 1 illustrates a telecommunications system 10 in accordance with one embodiment of the present invention. The telecommunications system 10 transmits voice, data, video, other suitable types of information, and/or a combination of different types of information between source and destination points see col: 4 lines 51-57). Comprising:
a bus identification module (The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37).
a high-order cross-connecting module (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, that therefore inherent both higher and lower order cross-connecting module see col:6 lines 28-30)
a high-order mapping/de-mapping module (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address

and/or other suitable information and mapping it to one of 64K CID's that therefore inherent both higher and lower order mapping/de-mapping module see col:16 lines 41-45).

a high-order encapsulation/de-encapsulation module (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent both higher and lower order encapsulation/de-encapsulation see col:6 lines 38-46).

a high-order packet scheduling module (ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule that therefore inherent both higher and lower order packet scheduling module see col:6 lines 26-28)

a low-order cross-connecting module (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, that therefore inherent both higher and lower order cross-connecting module see col:6 lines 28-30)

a low-order mapping/de-mapping module; (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's that therefore

inherent both higher and lower order mapping/de-mapping module see col:16 lines 41-45).

a low-order encapsulation/de-encapsulation module(The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent both higher and lower order encapsulation/de-encapsulation see col: 6 lines 38-46).

a low-order packet scheduling module; wherein the bus identification module transmits (The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37).the data service and/or TDM service from the TDM line unit to the high-order cross-connecting module, and transmits the data service from the data service processing unit to the high-order packet scheduling module (ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule that therefore inherent higher order packet scheduling module see col:6 lines 26-28).

the high-order cross-connecting module schedules the service as required for low-order processing to the low-order cross-connecting module(the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections

between the line cards 40, that therefore inherent lower order cross-connecting module see col:6 lines 28-30)

implements cross-scheduling for time slots of high-order TDM service, and schedules the time slots corresponding to the high-order data service from the TDM line unit to the high-order mapping/de-mapping module; (the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's that therefore inherent higher order mapping/de-mapping module see col:16 lines 41-45).

the low-order cross-connecting module implements cross-scheduling for time slots (The scheduler 356 manages outgoing slot allocation and incoming slot allocation. For outgoing slot allocation, the scheduler 356 specifies whether the multi-purpose ATM switch 66 or the bus fuser 350 writes to a given outgoing slot see col:19 lines 65-67 and clon:7 lines 1-2)of low-order TDM service, and schedules the time slots corresponding to the low-order data service from the TDM line unit to the low-order mapping/de-mapping module;

the high-order and low-order mapping/de-mapping modules receive the data frames from the high-order and low-order cross-connecting modules correspondingly, and implement mapping-/de-mapping for the data from the high-order and low-order encapsulation/de-encapsulation modules respectively (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40

segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent both higher and lower order encapsulation/de-encapsulation see col: 6 lines 38-46).

the high-order and low-order encapsulation/de-encapsulation modules receive the data frames from the high-order and low-order mapping/de-mapping modules correspondingly, implement data link layer de-encapsulation, and encapsulate the packets from the high-order and low-order packet scheduling modules(ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule that therefore inherent both higher and lower order packet scheduling module see col:6 lines 26-28) respectively; the high-order packet scheduling module receives the data packets from the high-order encapsulation/de-encapsulation module and/or the bus identification module(The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37).

and implements label-based packet scheduling; transmits the scheduled data to the data service processing unit via packet bus or to the TDM line unit via the high-order encapsulation/de-encapsulation module, the high-order mapping/de-mapping unit and the high-order cross-connecting module in turn (the switch and line cards are synchronized to this 125 microsecond frame pulse which in turn is derived from the systems clock see col:32 lines 24-26 that therefore inherent both higher and lower order cross-connecting module) ,the low-order packet scheduling module receives the data

packets from the low-order encapsulation/de-encapsulation module and implements label-based packet scheduling; transmits the scheduled data to the TDM line unit via the low-order encapsulation/de-encapsulation module(The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent lower order encapsulation/de-encapsulation see col:6 lines 38-46), the low-order mapping/de-mapping unit and the low-order cross-connecting module in turn (the switch and line cards are synchronized to this 125 microsecond frame pulse which in turn is derived from the systems clock see col:32 lines 24-26 that therefore inherent both higher and lower order cross-connecting module) .

Regarding claim 6, Field discloses a service scheduling comprising (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63). the steps of:

A) a bus identification module transmitting the data service(The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37). and/or TDM service from the TDM line unit to the cross-connecting module(the switch core 44 may also convert traffic between the TDM

and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30), and going to step B); transmitting the data service from the data service processing unit to the packet scheduling module, and going to step C) (The ATM line cards 40 also perform ATM layer function such as processing operation, administration, and management (OAM) cells and perform monitoring functions. Packet based line cards 40 segment and resemble (SAR) packets into generic ATM cells. Ethernet line cards 40 examine source address (SA) and destination address (DA) of the ethernet packets in order to map the packet flow into a cell flow and that therefore inherent encapsulation/de-encapsulation see col:6 lines 38-46)

B) the cross-connecting module implementing cross-scheduling for time slots of the TDM service (the time slot interchanger is operable based on predefined switching instructions to access the shared memory to store traffic channels received from the first bus and to retrieve traffic channels for transmission on the first bus see col:2 line 12-16), and transmitting the scheduled data to the TDM line unit; or scheduling the time slots corresponding to the data service from the TDM line unit to the mapping/de-mapping module(the port and VPI fields of an incoming ATM cell are translated by the line card 40 to the unique CID value the line cards 40 generate the CID for each cell by performing a look-up on the VPI/VCI, IP destination address and/or other suitable information and mapping it to one of 64K CID's see col:16 lines 41-45), the encapsulation/de-encapsulation module receiving the data service from the mapping/de-mapping module and transmitting the data service to the packet scheduling module (ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-

based schedule see col:6 lines 26-28), and going to step C);

C) the packet scheduling module implementing packet scheduling for the data service(ATM adaption layer (AAL) cell traffic, and segmented packet traffic on a frame-based schedule see col:6 lines 26-28); transmitting the scheduled data to the data service processing unit via packet bus, or to the TDM line unit via the encapsulation/de-encapsulation module, the mapping/de-mapping module and the cross-connecting module in turn (the switch and line cards are synchronized to this 125 microsecond frame pulse which in turn is derived from the systems clock see col:32 lines 24-26) .

Regarding claim 7 ,Field discloses the service scheduling method, wherein the bus identification module (The ATM line cards 40 perform header translation by identifying the coming virtual path identifier (VPI)/virtual channel identifier (VCI) in cells and replacing the VPI/VCI with a cell connection identifier (CID) see col:6 lines 34-37). reports the slot number corresponding to the data service processing unit and unit type of the data service processing unit to the control unit via the data service processing unit, and identifies the type of the bus connected with the processing unit as backplane packet bus to identify service source (the controller 652 generates an address based on the line card 40 and HSA slot number of the cell for ingress ATM cells, the controller 652 access an ingress RAM 670 in the controller RAM 654 to determine a queue for storing the cell see col: 30 lines 62-66).

Regarding claim 8 ,Field discloses the service scheduling method (a scheduler 356

that coordinates the entire switched fuse operation see col: 19 lines 62-63), wherein the TDM line unit and the data service processing unit copy the service to a first integrated cross-switching unit and a second integrated cross-switching unit which have the same function and structure to implement the same service scheduling procedure (the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card. In this embodiment, the first switch slot includes both a low speed and high speed connector to connect the standard switch card to the low speed TDM bus and the high speed ATM bus while the second switch slot includes only a high speed connector to connect the high capacity switch card to the high speed ATM bus see col:6 lines 63-67 and col:7 lines 1-8) if the first integrated cross-switching unit and the second integrated cross-switching unit are both normal, the TDM line unit and the data service processing unit receive the same service streams from the first integrated cross-switching unit and the second integrated cross-switching unit, and select either of them to implement a processing based on the service streams; if either of the first integrated cross-switching unit and the second integrated cross-switching unit goes wrong (The protect set of switch cards 60 and 62 receives traffic in the protect mode from the TSB and HSA buses 70 and 72. If either of the active switch cards 60 or 62 fail, both of the cards are taken out of service and the protect set of switch cards is activated to perform necessary switching functionality see col:10 lines 1-6), the faulted integrated cross-switching unit reports to the control unit, and the control unit instructs the TDM line unit and the data service processing unit to select the service stream of the normal

integrated cross-switching unit.(The rate adjustable backplane 46 includes a set of switch slots 54 and a plurality of line slots 56. The set of switch slots 54 include one or more receptors for receiving one or more switch cards forming the switch core 44. In one embodiment, the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card see col:6 lines 62-67 and col:7 lines 1-7).

Regarding claim 9 ,Field discloses the service scheduling method (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63), wherein the TDM line unit and the data service processing unit copy the service to the first integrated cross-switching unit and the second integrated cross-switching unit which have the same function and structure to implement the same service scheduling procedure(the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card. In this embodiment, the first switch slot includes both a low speed and high speed connector to connect the standard switch card to the low speed TDM bus and the high speed ATM bus while the second switch slot includes only a high speed connector to connect the high capacity switch card to the high speed ATM bus see col:6 lines 63-67 and col:7 lines 1-8); the TDM line unit and the data service processing unit receive the same service streams from the first integrated cross-switching unit and the second integrated cross-switching unit, determine whether the two service streams are normal (additionally, line card 40 to line card 40 processor

communication can be achieved via processor generated cells directed to the loop-back to a different line card port 48. In this case, the OLB bit is set by the line card 40 but the port number attached to the cell is changed to that of the destination port 48 to allow the switch card 44 to switch the cell according to its normal port number/VPI/VCI/OAM look-up processes to the desired line card port 40 with the egress OAM bit set see col:15 lines 28-36), and select either of them and implement a processing based on the service streams if the two service streams are both normal; if either of them is abnormal, select the normal service stream (The rate adjustable backplane 46 includes a set of switch slots 54 and a plurality of line slots 56. The set of switch slots 54 include one or more receptors for receiving one or more switch cards forming the switch core 44. In one embodiment, the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card see col:6 lines 62-67 and col:7 lines 1-7) also (The protect set of switch cards 60 and 62 receives traffic in the protect mode from the TSB and HSA buses 70 and 72. If either of the active switch cards 60 or 62 fail, both of the cards are taken out of service and the protect set of switch cards is activated to perform necessary switching functionality see col:10 lines 1-6)

Regarding claim 10 ,Field discloses the service scheduling method (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63), wherein the TDM line unit and the data service processing unit allocate the service to the first

integrated cross-switching unit and the second integrated cross-switching unit which have the same function and structure to implement service scheduling (the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card. In this embodiment, the first switch slot includes both a low speed and high speed connector to connect the standard switch card to the low speed TDM bus and the high speed ATM bus while the second switch slot includes only a high speed connector to connect the high capacity switch card to the high speed ATM bus see col:6 lines 63-67 and col:7 lines 1-8); if the first integrated cross-switching unit and the second integrated cross-switching unit are both normal, the TDM line unit and the data service processing unit receive the service streams from the first integrated cross-switching unit and the second integrated cross-switching unit to implement a processing based on the service streams(The rate adjustable backplane 46 includes a set of switch slots 54 and a plurality of line slots 56. The set of switch slots 54 include one or more receptors for receiving one or more switch cards forming the switch core 44. In one embodiment, the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card see col:6 lines 62-67 and col:7 lines 1-7) if either of the first integrated cross-switching unit and the second integrated cross-switching unit goes wrong, the faulted integrated cross-switching unit reports to the control unit, and the control unit instructs the TDM line unit and the data service processing unit to switch the service allocated to the faulted integrated cross-switching unit to the normal integrated

cross-switching unit (The protect set of switch cards 60 and 62 receives traffic in the protect mode from the TSB and HSA buses 70 and 72. If either of the active switch cards 60 or 62 fail, both of the cards are taken out of service and the protect set of switch cards is activated to perform necessary switching functionality see col:10 lines 1-6).

Regarding claim 11 ,Field discloses the service scheduling method (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63), wherein the TDM line unit and the data service processing unit allocate the service to the first integrated cross-switching unit and the second integrated cross-switching unit which have the same function and structure to implement service scheduling(the set of switch slots 54 include a first switch slot configured to receive a multiple format standard switch card and a second switch slot configured to receive an optional high capacity switch card. In this embodiment, the first switch slot includes both a low speed and high speed connector to connect the standard switch card to the low speed TDM bus and the high speed ATM bus while the second switch slot includes only a high speed connector to connect the high capacity switch card to the high speed ATM bus see col:6 lines 63-67 and col:7 lines 1-8); the TDM line unit and the data service processing unit receive the service streams from the first integrated cross-switching unit and the second integrated cross-switching unit and determine whether the service streams are normal; if either of the service streams is abnormal(The protect set of switch cards 60 and 62 receives traffic in the protect mode from the TSB and HSA buses 70 and 72. If either of the active switch cards 60 or 62 fail, both of the cards are taken out of service and the protect set

of switch cards is activated to perform necessary switching functionality see col:10 lines 1-6), switch the service of the integrated cross-switching unit corresponding to the abnormal service stream to the normal integrated cross-switching unit (additionally, line card 40 to line card 40 processor communication can be achieved via processor generated cells directed to the loop-back to a different line card port 48. In this case, the OLB bit is set by the line card 40 but the port number attached to the cell is changed to that of the destination port 48 to allow the switch card 44 to switch the cell according to its normal port number/VPI/VCI/OAM look-up processes to the desired line card port 40 with the egress OAM bit set see col: 15 lines 28-36).

Regarding claim 12 ,Field discloses the service scheduling method (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63), wherein the service allocated to the first integrated cross-switching unit and the second integrated cross-switching unit has priority; when either of the integrated cross-switching units goes wrong and needs service switching, the high-priority service can substitute the low-priority service under processing (The DLP value identifies cell priority level for queuing purposes. In an exemplary embodiment, the DLP value ranges from 0-3, with a "0" value being the highest priority that therefore inherent high-priority service can substitute the low-priority service under processing see col: 14 lines 5-8).

Regarding claim 13 ,Field discloses the service scheduling method (a scheduler 356 that coordinates the entire switched fuse operation see col: 19 lines 62-63),, wherein the

service allocated to the first integrated cross-switching unit and the second integrated cross-switching unit has priority; when either of the integrated cross-switching units goes wrong and needs service switching, the high-priority service can substitute the low-priority service under processing (The DLP value identifies cell priority level for queuing purposes. In an exemplary embodiment, the DLP value ranges from 0-3, with a "0" value being the highest priority that therefore inherent high-priority service can substitute the low-priority service under processing see col: 14 lines 5-8).

Regarding claim 14 ,Field discloses the integrated cross-switching unit (the switch core 44 may also convert traffic between the TDM and ATM realms to establish cross connections between the line cards 40, see col:6 lines 28-30), wherein the TDM line unit is a synchronous digital hierarchy (synchronous digital hierarchy (SDH) traffic and other suitable types of traffic in which routing information is derived from the position of the traffic in a frame see col:5 lines 62-65) or synchronous optical network line (The bytes of the STS-3 frame 310 are mapped into the 47 HSA slots 202 using byte ordering of synchronous optical network (SONET)see col:18 lines 23-25 and Fig.16).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 6631130 B1) ,Roy et al discloses , Method and apparatus for switching ATM, TDM, and packet data through a single communications switch while maintaining TDM timing

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHALID ABDALLA whose telephone number is (571)270-7526. The examiner can normally be reached on MONDAY THROUGH FRIDAY 7 AM TO 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JINHEE LEE can be reached on 571-272-1977. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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